REMARKS

The present application has been reviewed in light of the Office Action dated October 23, 2009. Claims 1-10, 12-27, 29-36, 39, 40, and 43-50 are presented for examination, of which Claims 1, 12, 23, and 29 are in independent form. Claims 12, 23, 24, 27, 29, 30, 33-36, 39, 40, and 48-50 have been amended to define Applicant's invention more clearly. Support for the amendments is found at least in Figures 1-5 and 11-13 and the accompanying description, and therefore no new matter has been added. Favorable reconsideration is requested.

Request for Interview

Applicants gratefully acknowledge the Examiner's scheduling of a telephone interview for March 1, 2010.

Formal Claim Rejections

Claims 23-26, 29-36, and 48-50 are rejected under 35 U.S.C.§ 101. In response, while not conceding the propriety of the rejection, independent Claims 23 and 29 have been amended to address the points raised in the Office Action. Applicants submit that as amended, these claims now even more clearly satisfy 35 U.S.C.§ 101. Therefore, Applicants respectfully request that the rejection be withdrawn.

Substantive Claim Rejection

The Office Action rejects Claims 1-10, 12-27, 29-36, 39, 40, and 43-50 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0018818 (*Boliek et al.*) in view of U.S. Patent Application Publication No.

2003/00113027 (*Chan et al.*) and what was alleged to have been well known in the art. In response, this rejection is respectfully traversed. Applicants submit that independent Claims 1, 12, 23, and 29 are allowable for the following reasons.

A. Independent Claims 1 and 23

Independent Claim 1 relates to a method of processing a request from a first communication apparatus connected through a communication network to a remote second communication apparatus, the method being implemented in the second apparatus. The method comprises receiving, determining, forming, and processing steps.

The receiving step receives the request, which is for obtaining digital data of a compressed digital signal that comprises header data and a signal body comprising data packets.

The determining step determines whether or not at least one pointer marker, providing information for calculating the length of the part of the signal body preceding at least one data packet corresponding to the request, is present in the header data.

The forming step forms the at least one pointer marker in the compressed digital signal when the determining step determines that the at least one pointer marker providing information for calculating the length of the part of the signal body, is not present in the header data.

The processing step processes the request including the step of determining a position, in the body of the compressed digital signal, of the at least one data packet corresponding to the request as a function of the length of the header data and of the at least one pointer marker present in the header data of the compressed digital signal.

By this arrangement, the method can address the absence of a pointer marker in header data. This is accomplished by determining whether at least one pointer marker is present in the header data, and forming the pointer marker if the pointer marker is absent.

In contrast, neither the citation to *Boliek et al.*, the citation to *Chen et al.*, nor common knowledge in the art, is understood to address the absence of a signal-body-part-length pointer marker in header data in a second-apparatus, compressed digital signal, the digital data of which has been requested in a request from a first apparatus. Consequently, these citations are not understood disclose or suggest steps to address this problem, i.e., (a) determining whether or not at least one pointer marker, providing information for calculating the length of the part of the signal body preceding at least one data packet corresponding to the request, is present in the header data, and (b) forming the at least one pointer marker in the compressed digital signal when the determining step determines that the at least one pointer marker providing information for calculating the length of the part of the signal body, is not present in the header data, as recited by Claim 1. Therefore, neither these citations, nor common knowledge in the art is understood to disclose or suggest thereafter, the step of processing the request, including the step of determining a position, in the body of the compressed digital signal, of the at least one data packet corresponding to the request as a function of the length of the header data and of the at least one pointer marker present in the header data of the compressed digital signal, as also recited by Claim 1.

The Office Action relies on the *Chan et al.* citation to disclose such determination and forming steps, page 5 stating that *"Chan et al.* discloses determining whether or not at least one pointer marker is present in the header data ([0157], it is determined whether or not correct pointer markers are present in the stream), and the forming of at least one

pointer marker in the signal responsive to a negative determination ([0157], the pointer markers are rewritten; i.e. if they were not present correct ones will be added and if they were present, correct pointer markers will be added)."

But Applicants can find nothing in paragraph [0157] that addresses the issue of the complete absence of a signal-body-part-length pointer marker. Rather, this paragraph of *Chan et al.* is understood to relate only to the rewriting of existing markers, for example, to account for the removal of parts of the bitstream, since the bitstream is being truncated. Since this passage is understood to relate to the truncating of a bitstream that already contains markers, (and the rewriting of such markers due to the truncation), the possibility that the header data lacks a signal-body-part-length pointer marker is not understood to be addressed. As a result, the determining of whether or not such a marker is present in header data, and the forming of such a marker when the marker is determined not to be present in the header data is also not understood to be addressed in this paragraph:

> [0157] As the bitstream is to be truncated then the contents of any PLM and PPM markers will also need to be rewritten. In addition, unless SOP (start of packet header markers are used, the bitstream contained in the PPM marker will need to be decoded in order that the byte ranges of the required segments can be determined. The order of bitstream headers in these markers is determined by information in the COD and COC markers and optionally modified by the content of any POC marker. This same ordering information is also required by a transcoder in order to rewrite any PLM and recalculate and write and TLM marker present in the main header. Any POC marker itself may need to be rewritten to account for the removal of certain parts of the bitstream. The SOC, RGN, CRG and COM markers can be rewritten without modification. (Emphasis added)

Thus, Applicants find nothing in the citation to *Boliek et al.*, the citation to *Chen et al.*, or common knowledge in the art, that a) addresses the complete absence of a signal-

body-part-length pointer marker, b) discloses a step to determine whether or not such a pointer marker is present in the header data, or c) discloses a step to form such a pointer marker in a compressed digital signal when such a pointer marker is determined not to be present in the header data.

Since Claim 1 is understood to recite at least three features not disclosed or suggested by the applied art, Applicants respectfully submit that the Office has not yet satisfied its burden of proof to establish a prima facie case of obviousness against Claim 1. Therefore, Applicants respectfully request that the rejection of Claim 1 be withdrawn. And because corresponding apparatus Claim 23 recites similar features, it is allowable for similar reasons. Therefore, Applicants respectfully request that the rejection of Claim 23 be withdrawn.

If the Examiner continues to reject Claims 1 and/or over the same art, Applicants respectfully request that he cite a specific piece of prior art teaching whatever knowledge the Examiner is combining with the *Boliek et al.* and *Chen et al.* citations to render the invention of Claim 1 obvious. Because as is best understood, the *Boliek et al.* and *Chen et al.* citations and common practice in the art do not: a) specify a course of action in the event that header data of a compressed digital signal, the digital data of which has been requested in a request, lacks a signal-body-part-length pointer marker providing information for calculating the length of the part of the signal body of the compressed digital signal preceding at least one data packet corresponding to a digital-data-obtaining request, b) disclose a step to determine whether or not such a pointer marker is present in the header data, or c) disclose a step to form such a pointer marker in a compressed digital signal when such a pointer marker is determined not to be present in the header data.

Accordingly, in accordance with MPEP § 2144.03, Applicants respectfully request that the Examiner cite a piece of prior art disclosing such knowledge or withdraw the rejection.

B. Independent Claims 12 and 29

Independent Claim 12 relates to a method of processing compressed digital data received by a first communication apparatus connected through a communication network to a remote second communication apparatus, the method being implemented in the first communication apparatus. The method comprises receiving, generating, filling, determining, and inserting steps.

The receiving step receives only a portion of a compressed digital signal present in the second apparatus and comprising a body that comprises data packets, the received portion of the compressed digital signal comprising at least one data packet.

The generating step generates a derived compressed digital signal derived from the compressed digital signal present in the second apparatus in the form of a cache file, the derived compressed digital signal comprising header data and a body and being capable of containing all or part of the body of the compressed digital signal present in the second apparatus.

The filling step fills the body of the derived compressed signal in the cache file with arbitrary data, so as to constitute a space of the same size as the body of the compressed digital signal present in the second apparatus.

The determining step determines a position at which the at least one data packet of the received portion of the compressed digital signal is to be inserted into the body of a derived compressed digital signal created by the first communication apparatus. The position is determined as a function of the length of header data of the derived compressed

digital signal and of at least one pointer marker previously received and inserted into the header data of the derived compressed digital signal by the first apparatus. The at least one pointer marker provides information for calculating the length of the part of the body of the derived compressed digital signal preceding the at least one data packet of the received portion of the compressed digital signal.

The inserting step inserts into the body of the derived compressed digital signal the at least one data packet of the received portion of the compressed digital signal at the determined position.

By this arrangement, the method pre-allocates or reserves space in the body of the second-apparatus digital signal for accommodating data to be received during a subsequent step (i.e., at least one data packet of a portion of a compressed digital signal present in the second apparatus that is received by the first apparatus). This is accomplished by filling the body of a first-apparatus digital signal, capable of containing all or part of the body of the second-apparatus digital signal, with arbitrary data to constitute a space of the same size as the body of the second-apparatus compressed digital signal.

In contrast, the citations to *Boliek et al.* and *Chen et al.* are not understood to disclose or suggest the step of filling the body of the derived compressed signal in the cache file with arbitrary data, so as to constitute a space of the same size as the body of the compressed digital signal present in the second apparatus, as recited by Claim 12.

Pages 8 and 9 of the Office Action rely on the *Chen et al.* citation to disclose such a filling step, citing paragraph [0192] thereof to show this feature. But, Applicants can find nothing in this paragraph to show the filling the body of the derived compressed signal in the cache file with arbitrary data. Rather, this paragraph is understood to merely disclose the storage of header information rather than body data:

[0192] Turning now to FIG. 17, there is shown a flow chart of a method of constructing a JPX image file in accordance with the fourth implementation. The method 17000 of constructing a JPX image file starts at step 17010. At the next step 17020 of the method, the fixed file header boxes (signature, file type and reader requirements) of the JPX file are written, as are the image dependent header boxes contained in the JP2 header box. These are written in a form that is compliant with the JPEG2000 part 2 draft standard. After the JP2 header box has been written completely, the position of the write pointer in the JPX file is captured at step 17030 and stored in a variable called herein "layer_header_start". At the next step 17040 of the method, the amount of space required for the storage of all of the header information for the parsed versions of the codestream is calculated and this amount of space is left blank in the file at this step. The part 1 compliant codestream box is then written at step 17050 immediately after this blank (reserved) space. This codestream can be constructed in the manner as described previously in section 7.2. Following the writing of the codestream, any additional metadata such as XML metadata describing the image content is written at step 17060. At the next step 17080 of the method, the method then returns to the position in the JPX file previously stored in the variable "layer_header_start" and enters a loop (17090-17100) over the number of resolutions (or more generally the parsed forms). At decision block 17090 of the loop, a test is performed to determine if headers have been written for all parsed forms, e.g. for all resolutions upto N. If the decision block 17090 returns yes (TRUE) indicating that all headers have been written then execution of the method exits to step 17150. Otherwise execution of the loop body (17100) involves writing any overriding file header information for this particular parsed form in a codestream header box for resolution N. This would include writing any label box describing the current parsed form. Overriding header segments are written in a media data box at step 17100 also. Finally, in step 17100 the fragment table box describing the virtual codestream is written.

Since the citations to *Boliek et al.* and *Chen et al.* are not understood to disclose or suggest the step of filling the body of the derived compressed signal in the cache file with arbitrary data, so as to constitute a space of the same size as the body of the compressed

digital signal present in the second apparatus, as recited by Claim 12, Applicants respectfully submit that the Office has not yet satisfied its burden of proof to establish a prima facie case of obviousness against Claim 12. Therefore, Applicants respectfully request that the rejection of Claim 12 be withdrawn. And because corresponding apparatus Claim 29 recites similar features, it is allowable for similar reasons. Therefore, Applicants respectfully request that the rejection of Claim 29 be withdrawn.

C. Dependent Claims

The other rejected claims in this application depend from one or another of the independent claims discussed above and, therefore, are submitted to be patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, individual consideration or reconsideration, as the case may be, of the patentability of each claim on its own merits is respectfully requested.

For example, Claim 20 recites a phase of converting the derived compressed digital signal into a valid signal comprising the steps of: extracting from the derived compressed digital signal the header data and received data packets; forming the header data of the valid signal from the header data extracted from the derived compressed digital signal; concatenating the data packets extracted from the derived compressed digital signal in the body of the valid signal; and when one or more data packets present in the body of the original compressed digital signal are not received by the first apparatus, concatenating respectively one or more empty packets in the body of the valid signal in the same order of appearance as that adopted in the derived compressed digital signal. The Office Action cites paragraphs [0042] and [0043] of the *Boliek et* al. citation as showing the features recited in last paragraph of Claim 20. But Applicants can find nothing in paragraphs

[0042] and [0043] of the *Boliek et al.* citation to show that when one or more data packets present in the body of the original compressed digital signal are not received by the first apparatus, concatenating respectively one or more empty packets in the body of the valid signal in the same order of appearance as that adopted in the derived compressed digital signal, as recited by Claim 20. Rather, Applicants read these passages to merely show how to generate requests (paragraph [0042] for example, states "...processing logic...determines what byte requests are necessary to receive this data based on what is already buffered at the client...the client retains packets of the codestream and stores them in a manner that provides the client easy access..."). Moreover,these paragraphs are not understood to disclose in any way the concatenating, respectively, of one or more empty packets in the body of the valid signal, which empty packets can be packets with a specific syntax according to a compression format (e.g. JPEG2000).

Claim 21 recites the steps of: going through the data contained in the body of the derived compressed digital signal; converting, when the data gone through does not correspond to a data packet received from the second apparatus, the space filled by the data concerned into an empty packet; and shifting in an adapted manner the data comprising the remainder of the body of the derived compressed digital signal. The Office Action cites paragraph [0042] of the *Boliek et* al. citation as showing the converting step and paragraph [0050] as showing the shifting step. But as noted above, Applicants can find nothing in paragraph [0042] relating to empty packets, which are recited in the converting step of Claim 21, and Applicants read paragraph [0050] of the *Boliek et al.* citation to merely show how to handle codestreams that are not in the right order for being understood by a decoder. Applicants can find nothing in this paragraph relating to shifting

in an adapted manner the data comprising the remainder of the body of the derived compressed digital signal, as recited by Claim 21.

Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Any fee required in connection with this paper should be charged to Deposit Account No. 06-1205.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our address listed below.

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